

Electronic Supporting Information (ESI) to:

## **Enhanced mechanical performance and wettability of PHBV fibers blend with evening primrose oil for skin patches improving hydration and comfort**

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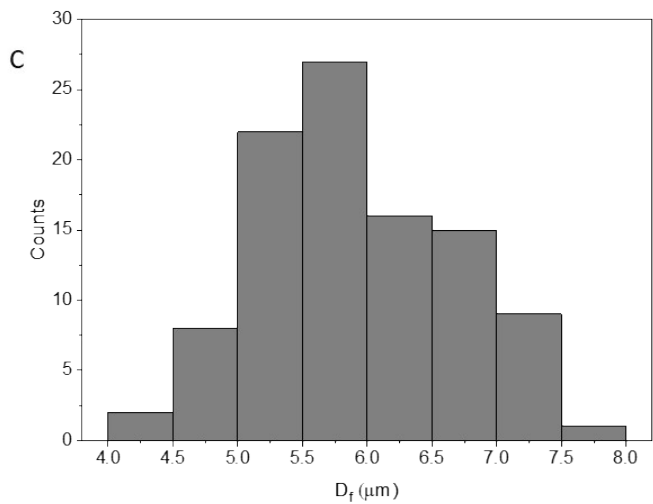
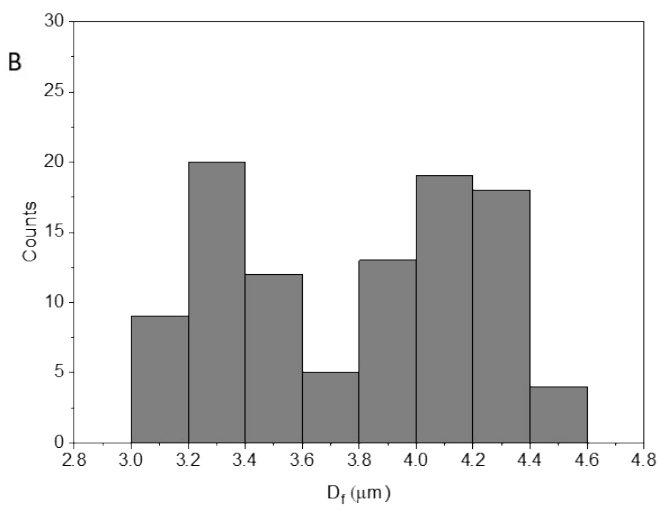
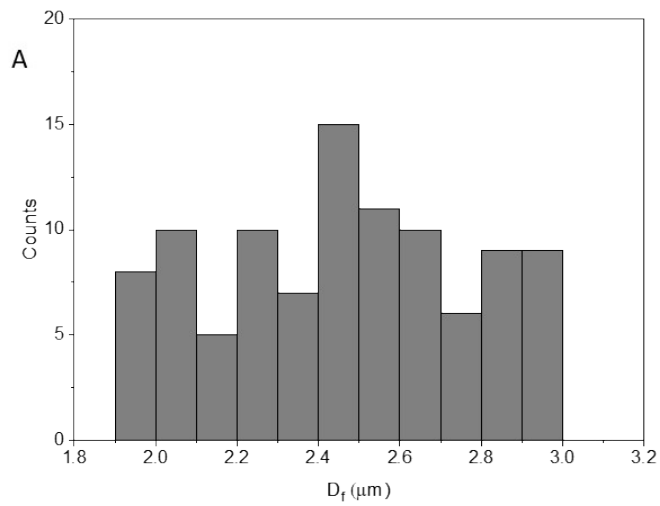
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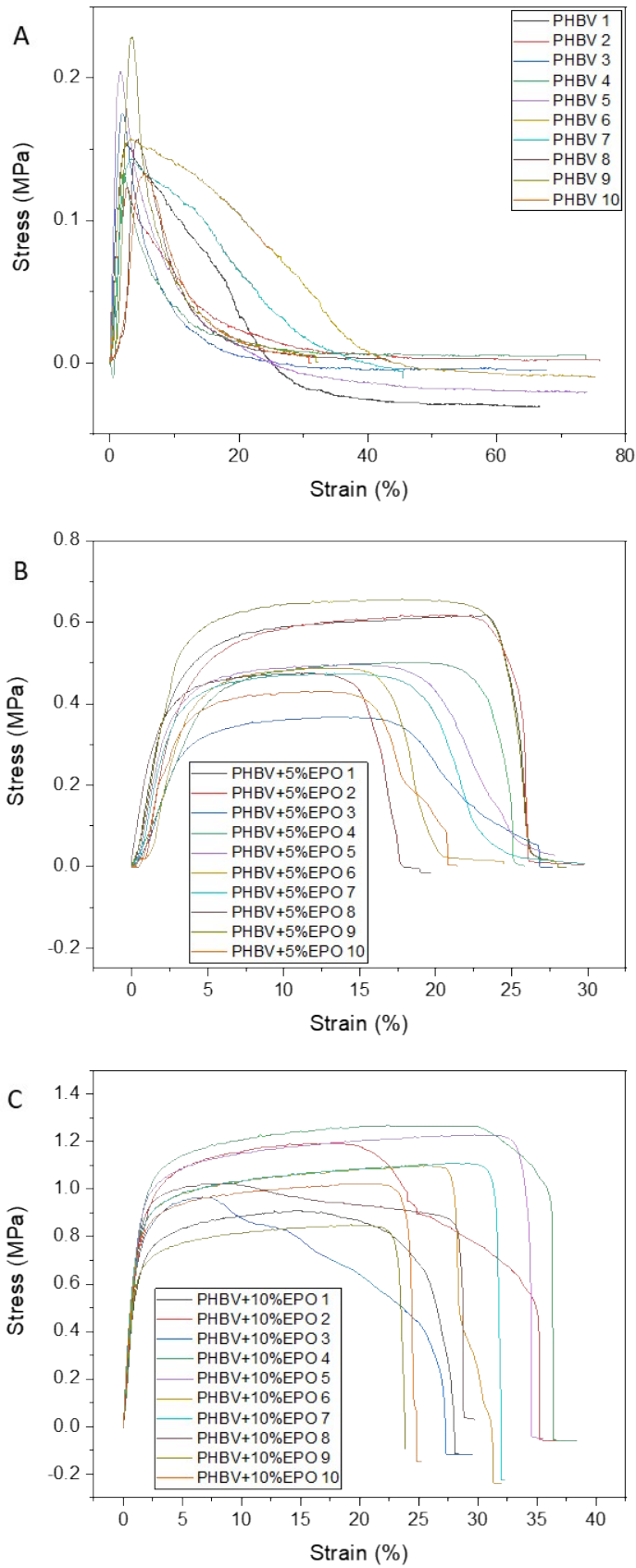
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The supporting information consist of:

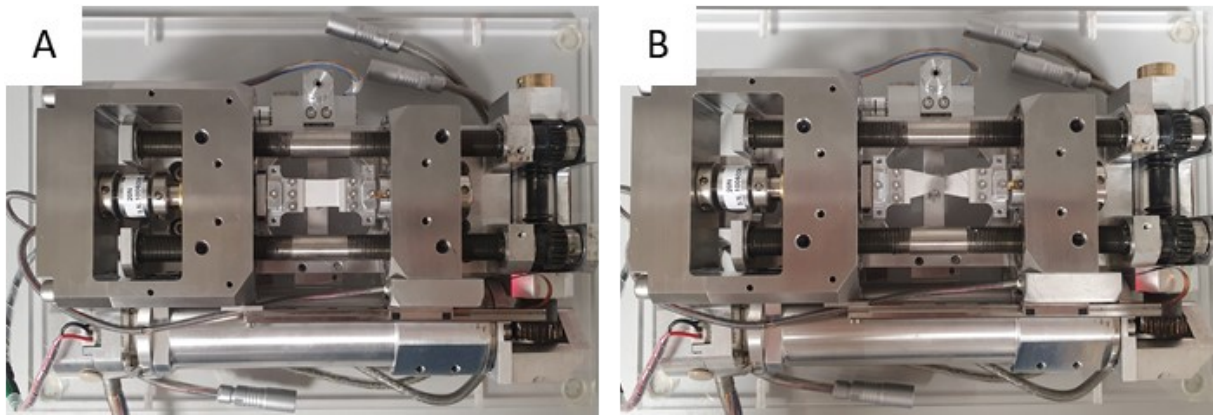
- Histograms showing the fiber size distribution in the PHBV fibers and PHBV blends with 5% and 10% of evening primrose oil.
- All stress–strain curves from tensile testing for pure PHBV fibers, PHBV fibers with 5% and 10% of evening primrose oil.
- The images of the tensile tested samples in the experimental set-up.
- The image of glass beakers after 24h of water vapor transmission test.
- Thermal image of the volunteer forearms before applying and after removing the patches.
- The representative images of patches applied on voluntaries' forearm during the tests.



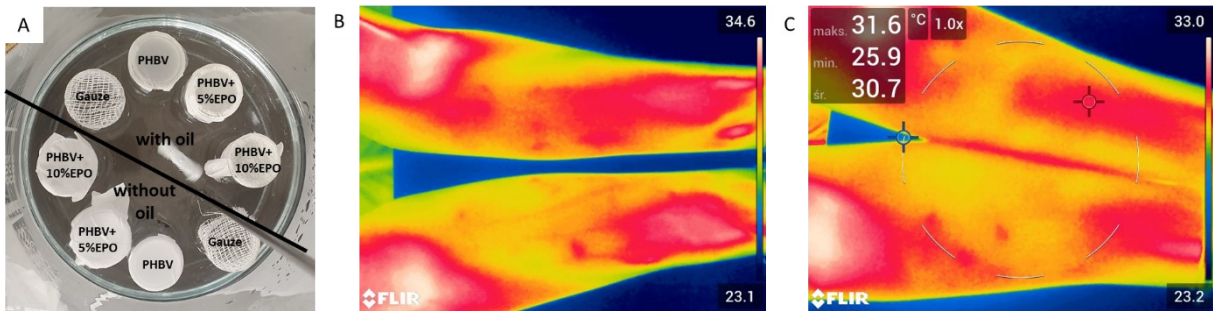
**Figure S1.** Histograms showing the distribution of electrospun PHBV fiber diameter distribution ( $D_f$ ) in the (A) PHBV fibers and PHBV blends with (B) 5% and (C) 10% of evening primrose oil.



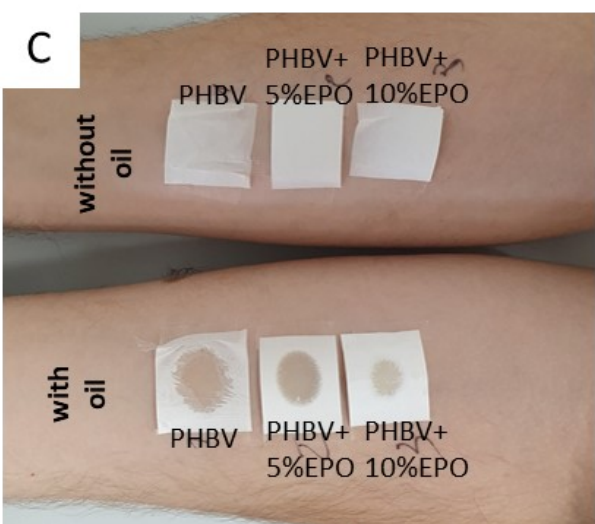
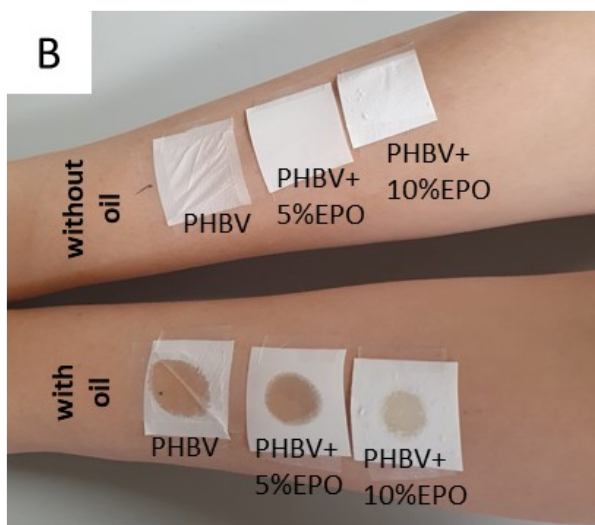
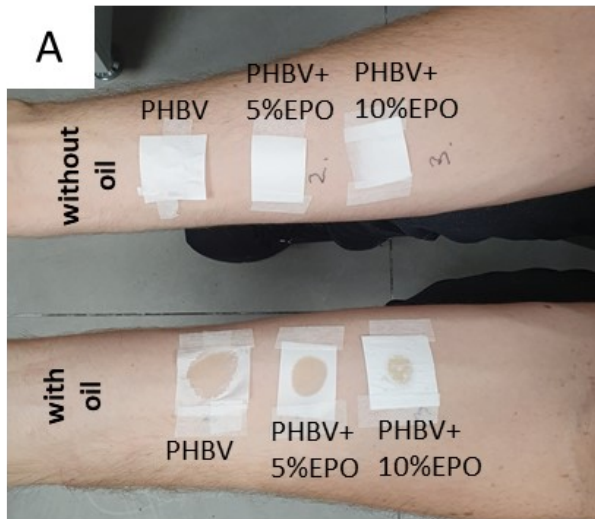
**Figure S2.** The stress–strain curves from tensile testing for (A) pure PHBV fibers, (B) PHBV fibers with 5% and (C) with 10% of evening primrose oil.



**Figure S3.** The example of images of the tensile tested samples (A) before and (B) after stretching in the mechanical testing module.



**Figure S4.** (A) The glass beakers after 24h of water vapor transmission test. Thermal image of the forearms (B) before applying and (C) after removing the patches.



**Figure S5.** Images of patches applied on voluntaries' forearm, (A) Volunteer 1, (B) Volunteer 3, (C) Volunteer 5.